



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,454	07/17/2000	Walter G. Branco	CY-0015	7824

7590 12/18/2002  
Bradley T Sako  
3954 Loch Lomand Way  
Livermore, CA 94550

EXAMINER

MARKOFF, ALEXANDER

ART UNIT	PAPER NUMBER
----------	--------------

1746

DATE MAILED: 12/18/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/617,454	BRANCO ET AL.	
	Examiner	Art Unit	
	Alexander Markoff	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-20 are indefinite because the term "reactive" is a relative term.

Claims 6, 9 and 12 are indefinite because it is not clear how the term "general range" limits the claims.

Claims 8 and 18-19 are indefinite because it recites the use of ultrasonic for cleaning but fails to recite a manipulative steps to perform that.

***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to provide support for the claimed requirement of the selectivity being greater than 1:100.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 3, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by the state of the prior art admitted by the applicants in the specification (pages 2 and 3).

The applicants admitted in the specification that cleaning plasma chambers by methods comprising placing chamber in the solvent and baking at the claimed temperatures was conventional in the art.

6. Claims 10- 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Autryve et al (US Patent No 6,014,979).

Van Autryve et al teach a method for cleaning the same as claimed.

Art Unit: 1746

The method comprises plasma cleaning with gases comprising oxygen generated by RF with the claimed power.

The method also comprises cleaning with acetone.

As to the required selectivity:

First, Van Autryve et al teach application of the claimed plasma to the claimed materials for removing the same contamination as claimed. It is inherent that the selectivity would be the same.

Second, it is noted that the claims recite only one low limitation for the selectivity and do not exclude selectivity being 2:100 or even 1000:100. It means that even the process wherein the part of the chamber is preferentially etched by plasma compare to the contaminants is inside of the claims.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 1746

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-9 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Autryve et al in view of the state of the prior art admitted by the applicants in the specification.

Van Autryve et al teach the claimed method except for the specific recitation of placing the chamber parts into a solvent., except for the recitation of conventional steps as water rinsing, baking, etc. and the use of ultrasonic to enhance the cleaning.

The applicants admitted in the specification (pages 2 and 3) that application solvents to clean parts by placing them in the solvent; water rinsing and backing are well-known conventional steps of the cleaning chamber parts.

It would have been obvious to an ordinary artisan at the time the invention was made to perform the wet cleaning in Van Autryve et al by any conventional way to achieve the better cleaning. It would also have been obvious to an ordinary artisan to

Art Unit: 1746

include the conventional steps such as water rinsing and baking into Van Autryve et al with reasonable expectation of adequate results in order to obtain cleaned chamber.

As to the use of ultrasonic: first, it is not clear what is referenced as ultrasonic cleaning of the part; second the use of ultrasonic to enhance liquid cleaning and scrubbing cleaning was well-known and conventional in the art.

As to the requirement to conduct solvent cleaning for the claimed time:

Cleaning time is a result effective variable. It would have been obvious to an ordinary artisan at the time the invention was made to find an optimum cleaning time by routine experimentation.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Upon reconsideration of the prior art and the applicant's Remarks the rejections made in the previous Office action have been withdrawn in favor of the new rejection.

It is noted that Van Autryve et al has been previously applied to claims 10 and 13-14 in the first Office action. The Applicant's arguments regarding these claims filed on 4/16/02 have been considered but not found persuasive because of the reasons given above in the rejection under 35 USC 102(e). It is again noted that:

First, Van Autryve et al teach application of the claimed plasma to the claimed materials for removing the same contamination as claimed. It is inherent that the selectivity would be the same.

Art Unit: 1746

Second, the claims recite only one low limitation for the selectivity and do not exclude selectivity being 2:100 or even 1000:100. It means that even the process wherein the part of the chamber is preferentially etched by plasma compare to the contaminants is inside of the claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 703-308-7545. The examiner can normally be reached on Monday - Friday 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 703-308-4333.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Alexander Markoff  
Primary Examiner  
Art Unit 1746

am  
December 16, 2002

**ALEXANDER MARKOFF  
PRIMARY EXAMINER**